

**CLAIMS**

1. A method for isolating a known volume of sample solution comprising:
  - (i) taking an apparatus comprising a first chamber with a sealing means, a second chamber, wherein said first and said second chamber are connected via a duct and collecting the sample solution into the first chamber of the apparatus; and
  - (ii) pumping a pre-determined known volume of the sample solution into the second chamber of the apparatus.
2. A method according to Claim 1 wherein the sample solution comprises a target material, preferably a nucleic acid target material.
3. A method according to any of Claim 1 or 2 wherein, when the apparatus is upright, the duct extends upwardly externally from an inlet in the bottom of the first chamber to an inlet in the top of the second chamber.
4. A method according to any of Claims 1 to 3 wherein the apparatus is manufactured from a moulded resiliently deformable plastic.
5. A method according to any of Claims 1 to 4 wherein the first chamber of the apparatus has a volume of from about 1ml to about 500ml, preferably of from about 10ml to about 100ml and more preferably of from about 20ml to about 50ml.
6. A method according to any of Claims 1 to 5 wherein the second chamber of the apparatus has a volume of from about 1ml to about 100ml, preferably of from about 2ml to about 50ml and more preferably of from about 5ml to about 30ml.
7. A method according to any of Claims 1 to 6 wherein the duct has a volume of from about 0.1ml to about 5ml, preferably from about 1ml to about 3ml.

8. A method according to any of Claims 1 to 7 wherein the volume of sample solution to be isolated in the second chamber is pre-determined to be from about 1ml to about 50ml, preferably from about 2ml to about 30ml and more preferably from about 5ml to about 20ml in the second chamber.
9. A method according to any of Claims 1 to 8 wherein the volume of sample solution isolated in the second chamber is accurate to within about 10%, preferably less than about 5% and more preferably less than about 1% of said pre-determined volume.
10. A method according to any of Claims 1 to 9 wherein the first chamber of the apparatus integrates with a funnel.
11. A method according to any of Claims 1 to 10 wherein the apparatus is disposable.
12. A method for isolating a known volume of sample solution comprising:
  - (i) taking an apparatus comprising a first chamber with a sealing means, a second chamber, and wherein said first and said second chamber are connected via a duct and placing a sample into the second chamber of the apparatus;
  - (ii) placing a solvent suitable for dissolving or diluting said sample into the first chamber of the apparatus;
  - (iii) pumping a pre-determined known volume of said solvent from the first chamber into the second chamber of the apparatus; and
  - (iv) allowing said solvent to dissolve or dilute said sample.
13. A method according to Claim 12 wherein the sample is a solid or viscous liquid sample.
14. An apparatus for isolating a known volume of sample solution comprising:
  - (i) a first chamber with an opening;

- (ii) a second chamber with an opening;
- (iii) a means for sealing said first chamber;
- (iv) a means for sealing said second chamber said means having an inverted conical shape; and

wherein the first chamber is connected to the second chamber by a duct.

15. An apparatus for isolating a known volume of sample solution comprising:

- (i) a first chamber with an opening;
- (ii) a second chamber with an opening said chamber additionally comprising a functional reagent;
- (iii) a means for sealing said first chamber; and

wherein the first chamber is connected to the second chamber by a duct.

16. An apparatus according to Claim 15 wherein the functional reagent is a pre-dosed reagent bead capable of lysing bacteria.

17. An apparatus according to Claim 16 wherein the functional reagent comprises chaotrophic salts.

18. An apparatus according to Claim 15 or 16 wherein the functional reagent comprises a control nucleic acid sequence.

19. A kit for isolating a known volume of sample solution comprising:

- (i) an apparatus comprising:
  - (a) a first chamber with an opening;
  - (b) a second chamber with an opening;
  - (c) a means for sealing said first chamber; and

wherein the first chamber is connected to the second chamber by a duct, and

- (ii) a functional reagent.